

ABSTRACT

A robust output buffer component capable of providing high quality output signals comprising a cascode module for receiving a differential signal from a differential pair module and transmitting that differential signal as two output waveforms. Using a bipolar implementation example, the emitter end of a common base cascode pair is coupled to the collector end of a common emitter differential pair with an optional resistive module inserted between the cascode pair and the differential pair. Engineering the cascode bias, the resistance at the collector nodes of the differential pair and/or the resistance at the base nodes of the differential pair effects: the degree of non-linearity of the base-collector capacitance as a function of the base-collector voltage, the voltage swing of the collector nodes, and the degree of symmetry of the input voltages. These three parameters may be used to optimize the symmetry of the output waveforms.